In the Claims:

Please cancel without prejudice claims 1 to 15 and add the following claims 16 to 29:

Claims 1 to 15 (canceled).

16.(new) A method of determining suitability of an optical material for production of an optical element, particularly for high-energy irradiation, wherein radiation-induced absorption is detected or identified in the optical material, said method comprising the steps of:

a) pre-irradiating the optical material with laser radiation until rapid damage induced in the optical material with the laser radiation is saturated;

b) after the pre-irradiating of step a), measuring total fluorescence produced in the optical material by excitation radiation during and/or immediately after irradiating the optical material with the excitation radiation, said total fluorescence being composed of intrinsic fluorescence and non-intrinsic fluorescence; and

c) determining the non-intrinsic fluorescence in the total fluorescence measured during and/or immediately after irradiating with the excitation radiation.

17. (new) The method as defined in claim 16, further comprising determining the intrinsic fluorescence as well as the non-intrinsic fluorescence and making a decision regarding suitability of the optical material for production of the optical elements based

on an amount ratio of the intrinsic fluorescence and the non-intrinsic fluorescence in the total fluorescence.

18.(new) The method as defined in claim 16, wherein the optical material is irradiated by the excitation radiation for a short period of time.

19.(new) The method as defined in claim 16, wherein the excitation radiation comprises at least one laser pulse.

20.(new) The method as defined in claim 16, wherein the total fluorescence is measured with an I-CCD camera.

21.(new) The method as defined in claim 16, wherein the total fluorescence is measured using a grating spectrograph.

22.(new) The method as defined in claim 16, wherein the excitation radiation has an excitation radiation wavelength and during the measuring of the total fluorescence of the optical material by a measuring device radiation emitted from the optical material at the excitation radiation wavelength is prevented from reaching the measuring device by a barrier device.

23.(new) The method as defined in claim 22, wherein the barrier device is a radiation filter and/or a spectral grating.

24.(new) The method as defined in claim 16, wherein the total fluorescence is measured after halting the irradiating of the optical material with the excitation radiation during a time interval in which the non-intrinsic fluorescence decays.

25.(new) The method as defined in claim 16, wherein the optical material is CaF_2, BaF_2, SrF_2, LiF, NaF, MgF_2 or $KMgF_3$.

26.(new) The method as defined in claim 16, wherein the intrinsic fluorescence comprises intrinsic fluorescence bands, the non-intrinsic fluorescence comprises non-intrinsic fluorescence bands and one of said intrinsic fluorescence bands is used to standardize the non-intrinsic fluorescence bands.

27.(new) The method as defined in claim 16, wherein radiation energy densities of the excitation radiation are comparable to those of the radiation-induced absorption.

28.(new) A device for carrying out the method as defined in claim 16, said device comprising

a source for propagating excitation radiation along a predetermined light path;

a holder for a material sample to be measured, the material sample being held by the holder in the predetermined light path;

a device for measuring fluorescence produced in the material sample by the excitation radiation, said device for measuring the fluorescence being arranged outside of the predetermined light path; and

a barrier device located between the material sample and the device for measuring the fluorescence, said barrier device comprising means for preventing the excitation radiation from reaching the device for measuring the fluorescence.

29.(new) An optical element made of an optical material that is judged suitable for high-energy irradiation by the method defined in claim 16, wherein said optical element is a lens, a prism, a light-conducting rod, an optical window or an optical component for DUV photolithography, steppers, excimer lasers, wafers, computer chips, integrated circuits and electronic devices that contain integrated circuits and computer chips of this type.